

THE LYCÆNIDÆ OF THE BAHAMA ISLANDS (LEPIDOPTERA, RHOPALOCERA)

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So little has been written about the *Lycænidæ* of the Bahamas that it was thought advisable to publish some account of the species of this family that are known to occur there.

Due to a lack of complete information, it has been impossible to work out distributions among the islands of the group. As a result, this paper will be limited almost entirely to a systematic list of species, with such locality data as are available.

The history of the recorded Bahaman *Lycænidæ* may be summed up as follows: E. M. Sharpe (1900, pp. 199–200), in her account of a collection made on New Providence Island, listed three species; M. Bates (1935, pp. 189, 195, 197, 198) mentioned an additional four as occurring in the Bahamas, but gave no specific localities; and lastly, the author (1941, p. 3; 1941a, p. 407) added two more, bringing the total number known for the region to eight. An additional five in this paper raise that number to thirteen. This figure compares, now, more favorably with the sixteen species of Cuba.

Of the thirteen Bahaman species and races in this family, two species and three races are indigenous. The latter, quite naturally, show affinities with both Florida and Cuba, but appear to be more strongly connected with the latter.

The specimens upon which this paper is based are contained chiefly in the collection of the Museum of Comparative Zoölogy. The general arrangement follows Bates' 1935 paper, "The Butterflies of Cuba."

Genus *Eumæus* Hübner1. *Eumæus atala* Poey

Eumenia atala Poey, 1832, no. 3, 3 figs.

Eumæus atala: Bates, 1935, p. 189.

I have seen but two Bahaman specimens, both badly worn. Insofar as can be determined, they do not differ from either Floridian or Cuban specimens.

Distribution. Great Abaco Island (Mathiew's Point, July 9, 1904). Also from Cuba and Florida.

Genus Strymon Hübner

2. *Strymon martialis* Herr.-Schäff.

Thecla martialis Herrich-Schäffer, 1864, p. 164.

Strymon martialis: Bates, 1935, p. 192.

This species is allied to the following, but the blue on the upper surface will at once distinguish it.

Distribution. New Providence Island (Mar. 12, 1934, Armour Exp.); Andros Island (Mangrove Cay, Aug. 1, 1904, O. Bryant); Cat Island (Arthurs Town, July 21, 1935, W. J. Clench); Conception Island (Feb. 12, 1934, Armour Exp.); Great Inagua Island (Feb. 1934, Armour Exp.).

S. martialis is also reported from Florida and Cuba. Bates' statement that it is found in "most parts of the West Indies" is open to question.

3. *Strymon acis armouri*, new subspecies

UPPERSIDE:

Both sexes brownish black. *Fore wing* in the female with a rather indefinite central patch of jet black. Male with a more definite and smaller central patch of the same color, in this case the scent pad, located on the outer end of the cell. *Hind wing* with the anal lobe orange, capped by a thick, short white bar. Between the lobe and the lower tail is a second, thinner, white bar, and between the two tails is a third. Basal to the second of these bars is a small, frequently obsolete, patch of white scales. Basal to the third bar is a patch of orange scales. The tail at Cu_1 is the shorter, as is customary in the genus, and both that and the one at Cu_2 are black, tipped with white. *Fringe* of both wings white, except at the anal lobe and the costal part of the outer margin of the hind wing which are brown.

UNDERSIDE:

Both sexes similar. Ground color grayish tan, rather dark. *Fore wing* crossed by a diagonal, rather thin, straight white

line, basally bordered with black. This line runs from a point on the costa, two-thirds from the base, to Cu_2 , about 3 mm. in from the outer margin. The inner marginal area from here is slightly grayer than the rest of the wing. *Hind wing* with a marginal white streak running from M_3 almost to 2A. Anal lobe black, surmounted by a white area. Between 2A and Cu_2 is a patch of gray and blue scales. Between Cu_1 and Cu_2 , set back from the margin, is an orange patch, most intense basally. Adjoining this, in the Cu_2 - Cu_1 - M_3 - M_2 interspaces are smaller orange patches, each of which is bordered outwardly with a small amount of white. Basal to these orange areas is a black line, parallel to the margin, and running from outer angle to Cu_2 . Marginal to this, near the outer angle, is a heavy white band, a continuation of the white bordering of the orange patches, mentioned above. Between the orange patches and the white bar (the former merging into the latter toward the outer angle), and the outer margin is a strip of gray. Outward of this strip is a thin, thread-like line of white, running the whole length of the outer margin. From the center of the costa runs a continuation of the white line on the fore wing. It proceeds straight to a point on Cu_2 just basal to the large orange spot, where it angles sharply inward for a short distance, then downward, touching at 2A just basal to the patch of blue and gray scales, then inward again, reaching the inner margin at the center. Throughout its whole length it is basally bordered with black. Near the inner margin, and just marginal and parallel to the last segment of this line, is a black streak which basally limits the white patch next the anal lobe. In the basal area are two white spots, small, occasionally almost obsolete, which lie parallel to the body line. *Length of fore wing* as in the typical.

Holotype, male, Rum Cay, Bahamas, Feb.-March, 1934 (Armour Exp.).

Allotype, female, Arthurs Town, Cat Island, Bahamas, July 16, 1935 (W. J. Clench).

Paratypes, one female, same data as holotype; two females, same locality and collector as allotype, July 8, 16, 1935.

Holotype, allotype and two paratypes, M.C.Z. no. 25848. One paratype in the author's collection.

Remarks. This subspecies differs from typical (Florida) *acis* in the narrower post-discal white lines on both wings,

and in the reduction of the orange patch on the under surface of the secondaries. This orange in typical *acis* is large and unicolorous, while in *armouri* it is much reduced and lighter marginally. The two basal spots on the secondaries below are usually smaller than in the typical form. Drury (1770, p. 2, pl. 1, fig. 2) gave in his description the locality "New York," undoubtedly false. No Cuban examples have been seen.

This subspecies is named for Mr. Allison V. Armour, of the yacht "Utowana," through whose efforts a large part of the museum's Bahaman butterflies were obtained.

4. *Strymon mæsites* Herr.-Schäff.

Thecla mæsites Herrich-Schäffer, 1864, p. 165.

Strymon mæsites: Bates, 1935, p. 194; Clench, 1941, p. 3.

Specimens from Florida and the Bahamas might each represent undescribed races, but they would at best be insignificant, and, for the present at least, it is better to leave them all under one name. *S. mæsites* is a close relative of the continental *telea* Hewitson (1873, Illustrations of Diurnal Lepidoptera. Lycænidae, p. 143, pl. 57, figs. 350, 351 (not original description)), and is in all likelihood only subspecifically distinct.

Distribution. Cat Island (Arthurs Town, July 16, 1935, W. J. Clench). Florida and Cuba, and also Puerto Rico have been cited as localities for this species. It is found very likely in Hispaniola as well.

5. *Strymon columella columella* Fabr.

Papilio columella Fabricius, 1793, p. 282.

Tmolus salona: Sharpe, 1900, p. 200.

Strymon columella: Bates, 1935, p. 194, fig. 15.

Mexican specimens belong to a separate subspecies (*istapa* Reak.) according to Field (1939, p. 346).

Distribution. New Providence Island (Nassau, June 1897, C. J. Maynard; Feb. 1933, J. C. Greenway; Feb. 1, and Mar. 12, 1934, Armour Exp.); Southern Eleuthera Island (Feb. 1934, Armour Exp.); Conception Island (Feb. 12, 1934, Armour Exp.); Rum Cay (1934, Armour Exp.); Long Island (Clarence Town, Feb. 20, 1934, Armour Exp.; Simm's, July 16, 1936, H. D. Russell and R. A. McLean).

Typical *columella* is widely distributed throughout the West Indies and Florida.

6. *Strymon angelia dowi* Clench

Tmolus angelia: Sharpe, 1900, p. 200.

Strymon angelia dowi Clench, 1941, p. 4.

S. dowi is quite distinct from the Cuban race (typical *angelia*), having a lighter ground color, and nearly lacking the fulvous on the upperside of the secondaries in the male.

Distribution. New Providence Island (Nassau, June 1897, C. J. Maynard); Cat Island (Arthurs Town, July 14–16, 1935, W. J. Clench); Long Island (Simm's, July 7, 1936, H. D. Russell and R. A. McLean); Mariguana Island (Feb. 25, 1933, Armour Exp.). All types.

The typical form is found in Cuba, Puerto Rico and Jamaica. It will in all probability turn up in Hispaniola when that island is more thoroughly explored.

Genus *Hemiargus* Hübner7. *Hemiargus hanno filenus* Poey

Polyommatus filenus Poey, 1832, no. 13, 3 figs.

Hemiargus filenus: Bates, 1935, p. 196, fig. 16.

Judging by the available data, *filenus*, in the Bahamas, is restricted to the more southerly islands. However, more extensive collecting may turn it up in the northern part of the group. It seems strange, nevertheless, that records of it are absent from New Providence Island, and Cat Island, the two islands most thoroughly known.

Distribution. Long Island (Clarence Town, Feb. 1934, Armour Exp.); Great Inagua Island (Feb. 1934, Armour Exp.).

Specimens from Florida, Cuba, Jamaica and Hispaniola seem to agree with those from the Bahamas, and together form the Antillean race of *hanno*.

8. *Hemiargus catilina thomasi* Clench

Hemiargus catilina thomasi Clench, 1941a, p. 407.

This race differs from the typical (Florida) form in the reduction and graying over of the white bands on both wings below.

Distribution. Cat Island (Arthurs Town, July 16, 1935, W. J. Clench; Russell's Creek, July 16, 1935, W. J. Clench);

Rum Cay (1934, Armour Exp.); Great Inagua Island (Feb. 1934, Armour Exp.).

9. *Hemiargus catilina ammon* Lucas

Lycæna ammon Lucas, 1857, p. 612, pl. 16, figs. 7, 7a, 7b.

Hemiargus ammon: Bates, 1935, p. 197.

This record is founded upon a single and very badly damaged specimen. Though positive examination is very difficult, it doesn't appear to differ from typical Cuban specimens.

Distribution. Long Island (Simm's, July 16, 1936, H. D. Russell and R. A. McLean).

This subspecies of *catilina* is found also in Hispaniola and Cuba.

10. *Hemiargus bahamensis*, new species

UPPERSIDE:

Male. Both wings blue. *Fore wing* with a thin black marginal border, faintly thicker at the apex. *Hind wing* with a single black spot between veins Cu_1 - Cu_2 , and a suggestion of another between Cu_2 -2A. *Fringe* of both wings white, darker at the ends of the veins.

UNDERSIDE:

Male. Ground color uniform gray-brown. Markings characteristic of *catilina*, but hardly distinguishable, due to the darker ground color, and almost complete absence of the white which usually surrounds them. In addition, the three spots in the basal area of the hind wing, usually jet black, have here lightened to the color of the ground, and can hardly be distinguished from it. On the *fore wing* there is a submarginal line of white, rather thin, contrasting sharply with the dark gray-brown which surrounds it. On the *hind wing* there is a corresponding white line, slightly thicker, which runs from costa to inner margin, as does that of the fore wing. On the outer margin, near the anal angle, are two black spots, irrorated heavily with metallic blue green scales on their outer margins. The one in Cu_1 - Cu_2 is capped by a thin curved line of orange, while the smaller one adjacent to it is capped by a similar line of white. *Length of fore wing* 9 mm.

Holotype, male, Crooked Island, Bahamas, March 1, 1934 (Armour Exp.), M.C.Z. 25737.

Remarks. This species belongs to the group in the genus *Hemiargus* that includes *catilina* Fabr., and its races, and *dominica* Möschl., though it is quite different from either. It bears a certain resemblance to *dominica* in the reduction in color of the basal spots, but there the similarity ceases. *H. dominica*, like *ammon*, is very light, with scattered brown markings, while *bahamensis* is dark, with the markings scarcely apparent. It is, perhaps, closest in appearance to *thomasi*, the Bahaman race of *catilina*. However, it can be distinguished readily by the pure white (though thin) lines, one on each wing, below, and in the reduced color of the basal spots, which are in *thomasi* jet black, as in the other *catilina* races. The reduction of the orange lunule below also seems characteristic of *bahamensis*.

Genus *Brephidium* Scudder

11. *Brephidium isophthalma* Herr.-Schäff.

Lycæna isophthalma Herrich-Schäffer, 1862, p. 141.

Brephidium isophthalma: Bates, 1935, p. 198.

Bahaman specimens seem to agree with those of Cuba.

Distribution. New Providence Island (Nassau, June 1897, C. J. Maynard).

12. *Brephidium barbouri*, new species

UPPERSIDE:

Male. *Fore wing* dark brown with a reddish discal tinge. Base of wing blue. *Hind wing* dark brown, with a basal blue area as in the fore wing, but more extensive. The veins in this blue area are obscurely pencilled with dark brown. A row of inconspicuous dark spots adorns the outer margin. *Fringe* of fore wing brown, faintly whitish towards apex; that of hind wing white.

UNDERSIDE:

Male. *Fore wing* with the base, outer margin and apex dark gray; disk ruddy brown. A submarginal row of white dashes parallels the outer margin. In the disk is an interrupted, badly dislocated, double white line, and a double dash at the end of the cell. *Hind wing* dark gray brown. Obscure white dashes and white scaling are scattered over the entire surface with the

same general pattern as found in *isophthalma* and *exilis* Boisd. At the base is a narrow area of greenish scaling. There are seven spots on the outer margin, the anal one and apical two all metallic green, the remaining black, with a convex line of green irroration in each. Between these spots and the outer margin is a thin line of dull orange, which extends basally between the spots for a short distance. Basal to the row of spots is a faint and rather indefinite whitish line.

Holotype, male, Great Inagua Island, Bahamas, Feb. 1934 (Armour Exp.).

Paratype, male, same data.

Holotype and paratype, M.C.Z. no. 25738.

Remarks. This species differs from the related *isophthalma* and *exilis* in the absence of a white patch of fringe near the anal angle of the fore wing, and in a darker color below, especially on the fore wing. It also appears to be darker above. Two specimens from Rum Cay (Feb. 1934, Armour Exp.) seem referable to *barbouri*.

This species is named for Dr. Thomas Barbour, director of the Museum of Comparative Zoölogy.

Genus *Leptotes* Scudder

13. *Leptotes cassius theonus* Lucas

Lycæna theonus Lucas, 1857, p. 611, pl. 16, figs. 8, 8a, 8b.

Tarucus cassius: Sharpe, 1900, p. 199.

Leptotes theonus: Bates, 1935, p. 198.

Bahaman specimens agree with those found elsewhere in the West Indies and Florida.

Distribution. South Bimini Island (Alicetown, Apr. 1941, R. W. Foster and J. Huntington); New Providence Island (Nassau, June 1897, C. J. Maynard); Southern Eleuthera Island (Feb. 1934, Armour Exp.); Cat Island (Arthur's Town, Aug. 5, 1935, W. J. Clench); Stranger's Cay, Little Abaco Island (July 5, 1904, O. Bryant); Crooked Island (March 1, 1934, Armour Exp.); Great Inagua Island (Feb. 1934, Armour Exp.); Long Island (Clarence Town, July 29, 1936, W. J. Clench and J. C. Greenway); Grand Bahama Island (Eight Mile Rock, Apr. 22, 1936, W. J. Clench); Rum Cay (1934, Armour Exp.); Watling's Island (Feb. 17, 1933, J. C. Greenway).

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